Eye Contact
Mild irritant to rabbit eyes.

Inhalation
The acute inhalation LC50 is greater than 3.1 mg/L in both male and female rats. A single 4-hour inhalation exposure of 3.1 mg/L (greater than 99 percent respirable) produced ruffled fur and no mortality in male and female rats.

Neurotoxicity
The product, when administered orally (11.7 g/kg) to hens, produced a significant inhibition of hen plasma cholinesterase but did not inhibit hen brain neurotoxic esterase.

The product, when administered twice orally (11.7 g/kg) with a three week interval between each dose, did not produce any evidence of acute, delayed neurotoxicity in hens.

Mutagenicity/Carcinogenicity
The product was examined for mutagenic activity in a series of *in vitro* microbial assays employing five different strains of *Salmonella* indicator organisms with and without metabolic activation. Two different activation systems were obtained from livers of Aroclor* 1254 pretreated rats and of phenobarbital pretreated rats. The product did not demonstrate mutagenic activity in these assays.

The product was examined in a Mouse Lymphoma Forward Mutation Assay using the mouse lymphoma cell line L5178Y with and without metabolic activation. The activation system was obtained from livers of Aroclor 1254 pretreated rats. The product did not demonstrate mutagenic activity in these assays.

The product was examined in the *In Vitro* Cytogenetic Assay using mouse lymphoma cell line L5178Y with and without metabolic activation. The activation system was obtained from livers of Aroclor 1254 pretreated rats. The product did not induce increases in the rates of chromosome aberrations or sister chromatid exchange in these assays.

The product was examined in an *in vitro* malignant transformation test utilizing BALB/3T3 cells. The product did not induce morphologic transformations and thus did not exhibit carcinogenic potential in this test.

T-6681, T-10007, T-10008, T-10009, T-10468, T-10808

VII. FIRST AID

CALL A POISON CENTER OR PHYSICIAN IMMEDIATELY.

If a known exposure occurs or is suspected, immediately initiate the recommended procedures below and simultaneously contact a Poison Center, a physician or the nearest hospital.

NOTE: *Be sure to advise the person contacted that triphenyl phosphate, an ingredient comprising 15-20% of this product, has been reported to be a cholinesterase inhibitor in humans.*[1] Inform the person contacted of the type and extent of exposure, describe the victim's symptoms, and follow the advice given.

*A Registered Trademark of Monsanto Chemical Company

[1] The American Conference of Governmental Industrial Hygienists (ACGIH). 1971. *Documentation of the Threshold Limit Values for Substances in Workroom Air*, 3rd ed. ACGIH: Cincinnati, Ohio. pg. 272.

Note to Medical Personnel
Exposure to an ingredient in this product may cause cholinesterase inhibition. Should cholinesterase inhibition occur, atropine by injection is antidotal. 2-PAM (Protopam Chloride) is also antidotal when administered early and in conjunction with atropine.

Ingestion
If swallowed, immediately give several glasses of water and induce vomiting by gagging the victim with a finger placed on the back of the victim's tongue. Give fluids until vomitus is clear. If victim is unconscious or convulsing, do not induce vomiting or give anything by mouth.

Skin Contact
Flush all affected areas with plenty of water for several minutes. Remove and clean any contaminated clothing and shoes. Seek medical attention if skin irritation occurs.

Eye Contact
Flush the eyes with plenty of running water for at least 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. Seek medical attention if eye irritation occurs.

Inhalation
If inhaled, remove to fresh air. Seek medical attention if respiratory irritation occurs or if breathing becomes difficult.

VIII. INDUSTRIAL HYGIENE

Ingestion
All food should be kept in a separate area away from the storage/use location. Eating, drinking and smoking should be prohibited in areas where there is a potential for significant exposure to this material. Before eating, hands and face should be thoroughly washed.

Skin Contact
Skin contact with liquid or its aerosol should be minimized through the use of gloves and suitable long-sleeved clothing selected with regard for use condition exposure potential.

Eye Contact
Eye contact with liquid or its aerosol should be avoided through the use of chemical safety glasses, goggles or a face shield selected with regard for use condition exposure potential.

Inhalation
If use conditions generate airborne aerosol, the material should be handled in an open (e.g., outdoor) or well ventilated area. Where adequate ventilation is not available, use NIOSH-approved organic vapor respirators with dust, mist and fume filter to reduce exposure. Where exposure potential under the use conditions necessitates a higher level of protection, use a positive-pressure, air-supplied respirator.

Exposure Limits
No exposure limits have been established for this product. However, the following exposure limits apply for triphenyl phosphate, an ingredient of this product:

The Federal OSHA Permissible Exposure Limit (PEL) is 3 mg/m^3 as an 8-hour time-weighted average.[2]

[2] 29 CFR 1910.1000

The American Conference of Governmental Industrial Hygienists (ACGIH) has recommended a Short Term Exposure Limit (STEL) of 6 mg/m^3 for triphenyl phosphate.[3]

IX. SPILL HANDLING

Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices (refer to SECTION VIII: INDUSTRIAL HYGIENE).

Any person entering either a significant spill area or an unknown concentration of a vapor or aerosol should use a positive-pressure self-contained breathing apparatus or a positive-pressure supplied-air respirator with escape pack.

Small spills can be handled routinely. Use adequate ventilation and wear a NIOSH-approved respirator with dust, mist and fume filter to prevent inhalation exposure. Wear protective clothing to prevent skin and eye contact. Use the following procedures:

Soak up pooled liquid with a suitable absorbent such as clay, sawdust or kitty litter. Sweep up absorbed material and place in a chemical waste container for disposal (refer to SECTION XII: DISPOSAL OF UNUSED MATERIAL). Generously cover contaminated area with a slurry of common household powdered laundry detergent and water. Using a stiff brush, work the slurry into cracks and crevices. Allow to stand for 2-3 minutes then flush with water. Repeat if necessary.

Large spills should be diked and pumped to salvage according to a predetermined plan. For assistance in developing a plan, contact Stauffer Chemical Company, Westport, CT 06881.

IN CASE OF SPILL EMERGENCY, DAY OR NIGHT,
CALL (800) 424-9300
CHEMTREC.

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[3] The American Conference of Governmental Industrial Hygienists (ACGIH). 1982. *Threshold Limit Values for Chemical Substances and Physical Agents in the Workroom Environment with Intended Changes for 1982.* ACGIH: Cincinnati, Ohio.

X. CORROSIVITY TO MATERIALS OF CONSTRUCTION

Noncorrosive to glass or metals. However, because the product has plasticizing properties, it may soften or deteriorate certain plastics and elastomers (particularly vinyl-based resins, neoprene, and natural rubbers).

XI. STORAGE REQUIREMENTS

Containers should be stored in a cool, dry, well ventilated area away from flammable materials and sources of heat or flame. Store away from foodstuffs or animal feed. Exercise due caution to prevent damage to or leakage from the container.

Prolonged storage at elevated temperatures under wet alkaline conditions should be avoided. Care should be taken to prevent moisture condensation in the container.

Carbon steel is the preferred material of construction for storage containers. The material is commonly shipped in unlined tank cars, tank trucks, and drums. At temperatures below 40°F (4.4°C), the viscosity is such that improved pumping rates may be achieved by warming. Temperatures from 80-100°F (27-37.8°C) provide good rates of flow.

XII. DISPOSAL OF UNUSED MATERIAL

Material that cannot be used or chemically reprocessed should be disposed of at an approved facility in accordance with any applicable regulations under the Resource Conservation and Recovery Act.

NOTE: State and local regulations may be more stringent than Federal.

XIII. DISPOSAL OF CONTAINER

Dispose of empty containers according to any applicable regulations under the Resource Conservation and Recovery Act.

NOTE: State and local regulations may be more stringent than Federal.

Issued 9/83